

The background of the slide is a photograph of a large body of water, likely a reservoir, with a small barn on a hill to the left and rolling hills in the distance under a clear blue sky. The text is overlaid on this image.

Bureau of Reclamation
Mid-Pacific Region

California Department
of Water Resources

Upper San Joaquin River Basin Storage Investigation

Restoration Flow Workshop

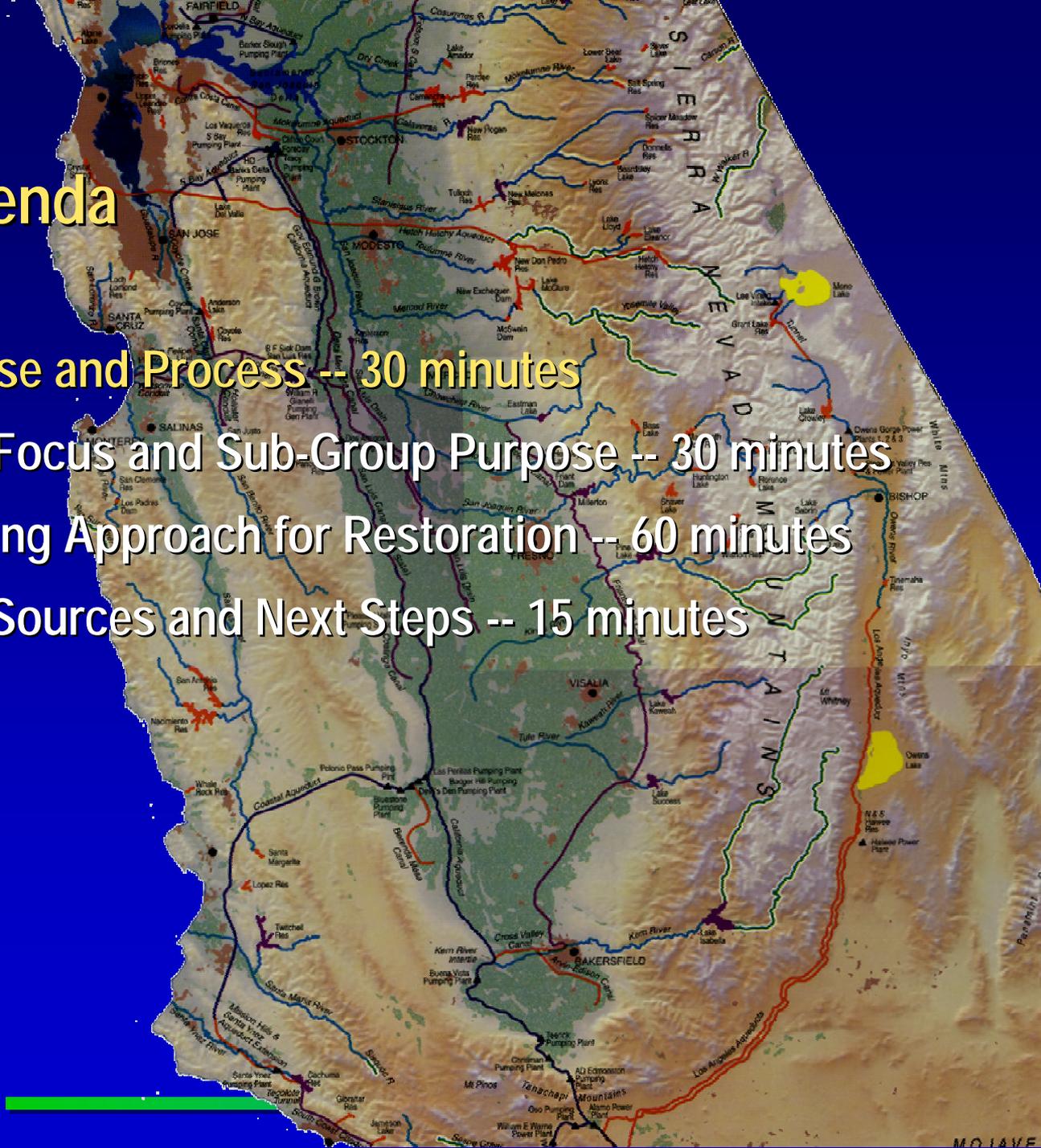
September 4, 2002

Workshop Purpose and Objectives

- ◆ Review Investigation Evaluation Approach
 - ◆ Develop Common Understanding of Restoration Sub-group Purpose
 - ◆ Review and Discuss Initial Information Needs for Modeling San Joaquin River Restoration Flows
 - ◆ Identify Additional Sources of Information to Review and Refine Information
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Workshop Agenda

- ◆ Study Purpose and Process -- 30 minutes
- ◆ Restoration Focus and Sub-Group Purpose -- 30 minutes
- ◆ Initial Modeling Approach for Restoration -- 60 minutes
- ◆ Information Sources and Next Steps -- 15 minutes



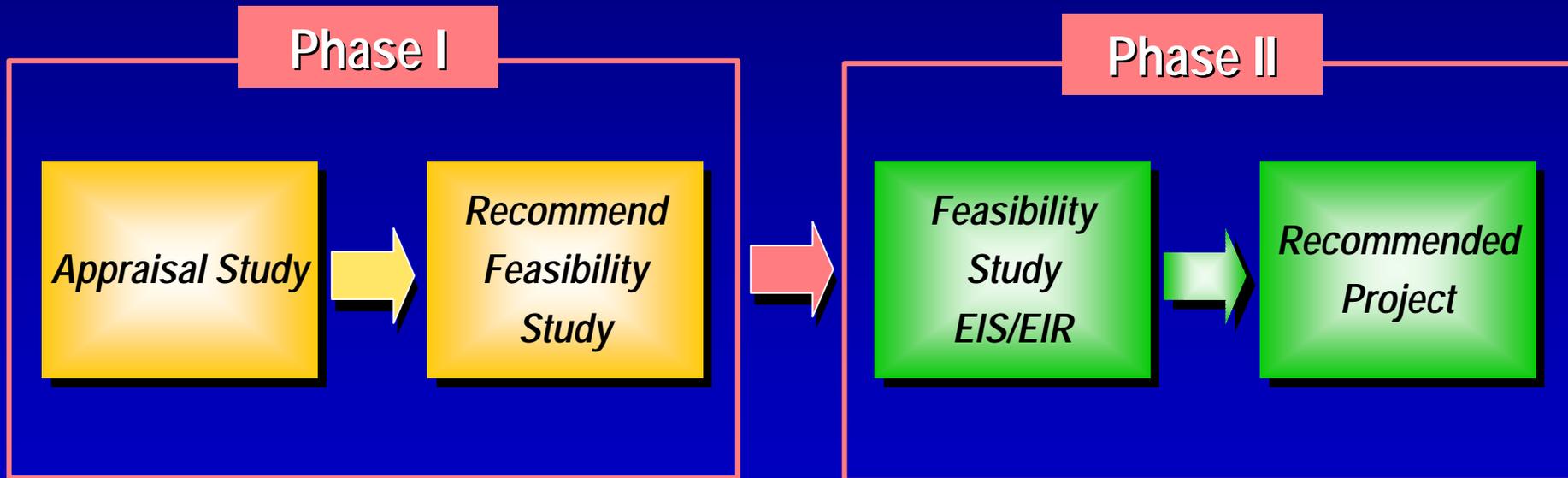
Participation Principles

- ◆ Participate -- Attend the workshops
 - ◆ Learn -- Learn about resources, people, roles, and process
 - ◆ Represent -- Bring issues and interests forward from others whose interests you share
 - ◆ Cooperate -- Work with others in the workshops to share information and consider options
 - ◆ Educate -- Report back to others who share your interests
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Workshop Ground Rules

- ◆ **Commit to Being Fully Present**
 - No cell phones, pagers, voicemail, etc.
 - Ask for what you need from the meeting process and participants
 - ◆ **Honor Our Time Limits**
 - Keep comments and discussion concise
 - Stay focused on the topic – Use the parking lot for other issues
 - ◆ **Respect Each Other**
 - Listen carefully to other participants
 - Respond to ideas and issues, not individuals
 - ◆ **Support Constructive Discussion**
 - Suggest improvements and solutions
 - Build on others' ideas – Use “and” instead of “but”
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UPPER SAN JOAQUIN RIVER BASIN STORAGE INVESTIGATION – A Two-Phase Investigation Approach



Investigation Goals and Phase 1 Purpose Statement

- ◆ CALFED Goals for Upper San Joaquin River Basin Storage
 - Contribute to restoration of San Joaquin River
 - Improve water quality in San Joaquin River
 - Improve water quality of urban deliveries
 - ◆ Facilitate conjunctive water management and water exchanges

- ◆ Phase 1 Study Purpose Statement

“Determine if CALFED agencies should pursue a water storage feasibility study that could meet the CALFED goals for Upper San Joaquin River Basin Storage and assist in solving other regional problems.”

PLANNING APPROACH

Focus of the Phase I Investigation

- ◆ Consider increasing water supplies through the enlargement of Millerton Lake or a functionally equivalent storage program
- ◆ Coordinate with other Federal, State, and Regional programs and projects
- ◆ Recommend continued study
 - If a Potential Plan appears viable
 - With Federal and State interests
 - With identified potential project partners
- ◆ Define scope of feasibility study and impact analysis

Phase 1 Planning Approach

We Are Here

CALFED Agencies

Planning Team

Stakeholders

Plan Formulation Strategy

Phase I Investigation Report

Planning Process Agreements

Phase I Study Purpose

Goals

Objectives

Continuation Criteria

Evaluation

Problems and Opportunities

Modeling Tools and Assumptions

Model Refinement

Alternatives Development

Friant Enlargement Concept

Initial Evaluation

Functional Equivalence

Surface Storage Options

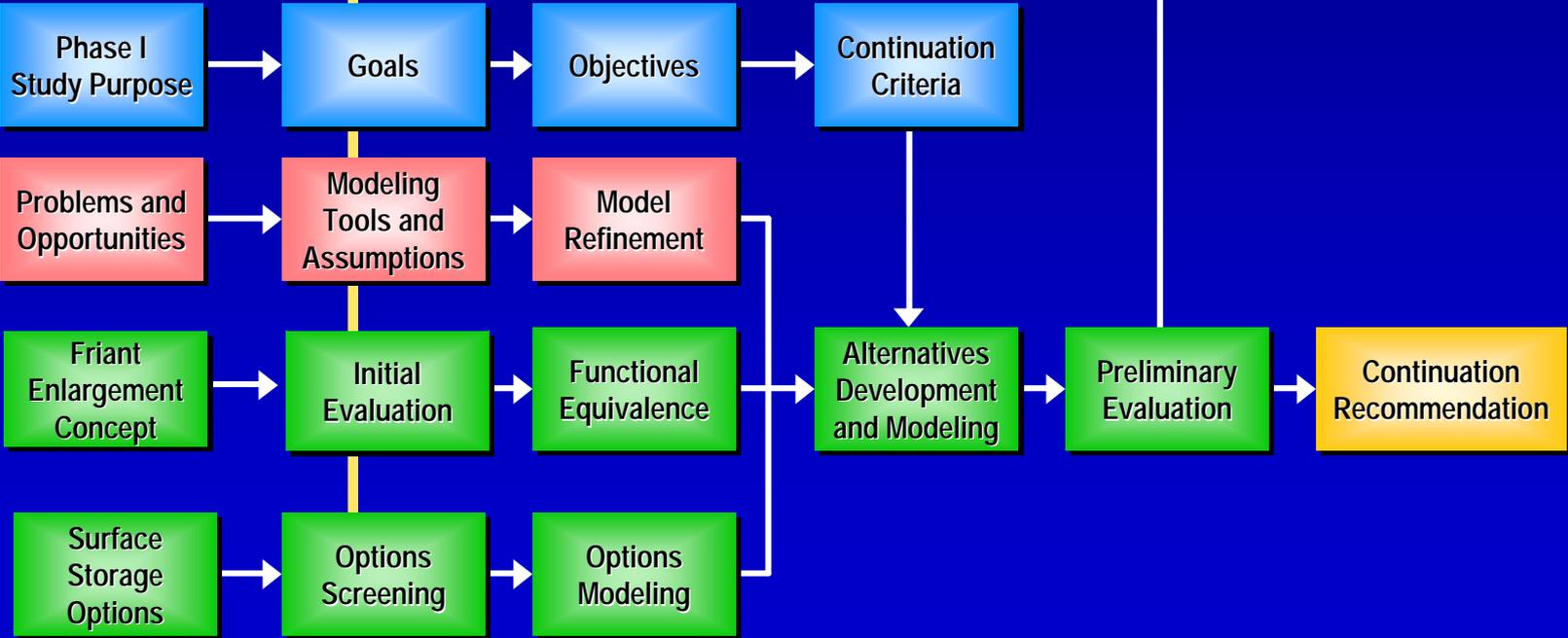
Options Screening

Options Modeling

Alternatives Development and Modeling

Preliminary Evaluation

Continuation Recommendation



Initial Evaluation Approach

- ◆ **Friant Enlargement Concept**
 - **Evaluation scenario only - not an alternative**
 - ◆ Increase Millerton Lake by 700 TAF in CALSIM 2 Model
 - ◆ Simulate operations with additional storage
 - ◆ Identify how problems and opportunities could be addressed
 - ◆ Use to guide definition of “Functional Equivalence”
 - ◆ **Initial Modeling Assumptions**
 - **Based on existing conditions and honoring current laws, rules, and regulations**
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Initial Evaluation Approach

- ◆ How much water could enlarged Friant provide for each CALFED goal?
 - ◆ Begin with single purpose scenario for each goal
 - Operate to address one goal
 - Identify range of potential accomplishments relative to the goal
 - Identify potential accomplishments relative to other problems and opportunities
 - ◆ Will ultimately use results to help define objectives for Phase 2 study
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Initial Analysis Example -- Water Quality

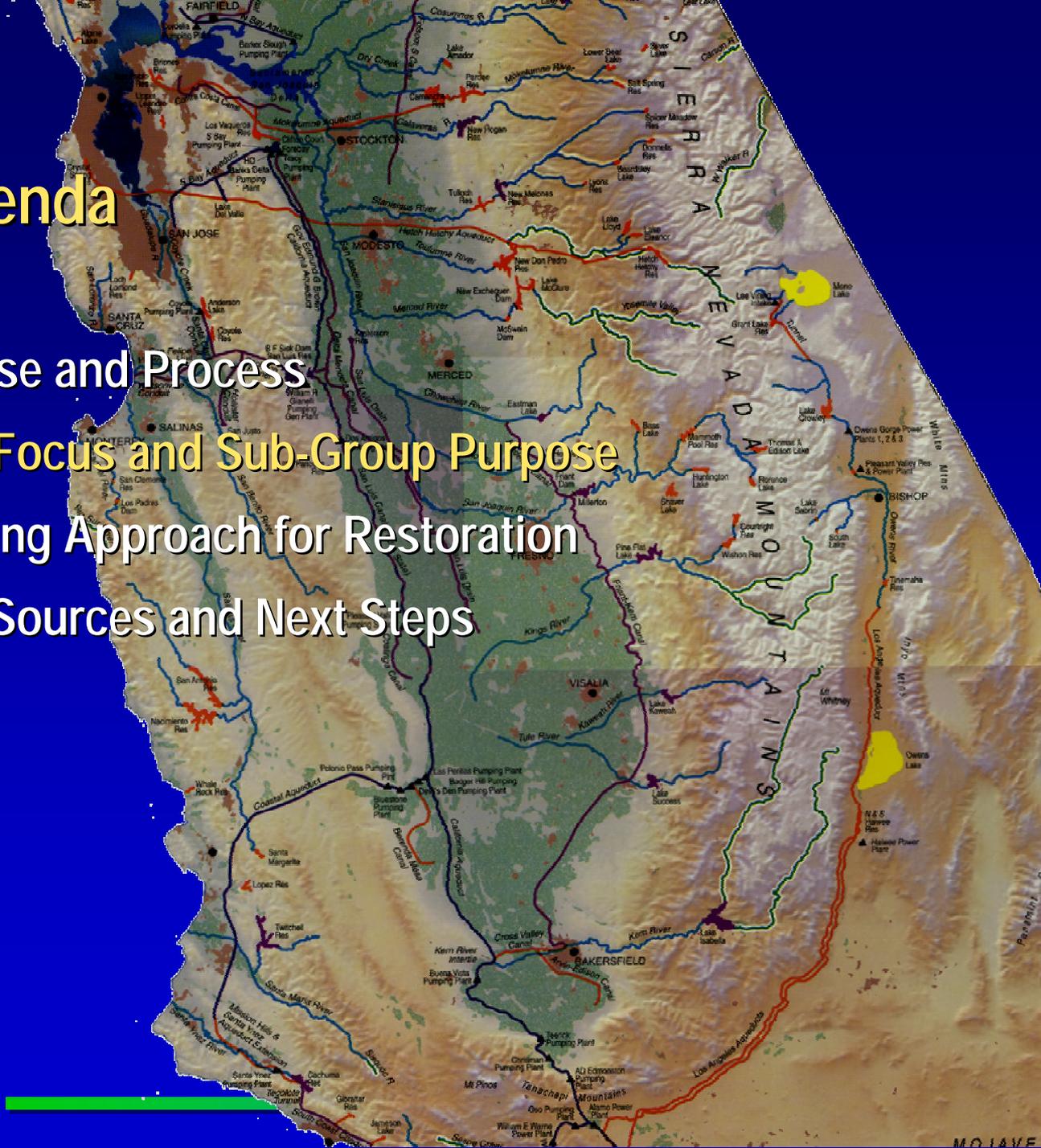
- ◆ Use new storage for water quality
- ◆ Identify how Friant Enlargement concept could help address water quality problems
- ◆ Identify how other problems and opportunities could be affected
 - River Restoration
 - Water Supply Reliability
 - Flood Control
 - Hydropower
 - Delta Inflow

San Joaquin River Restoration Programs and Activities

- ◆ San Joaquin River Riparian Habitat Restoration Program
 - ◆ Friant/NRDC Process
 - Restoration Plan
 - Water Supply Plan
 - ◆ San Joaquin River Management Program
 - ◆ CALFED Ecosystem Restoration Program
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Investigation Role in Restoration

- ◆ Restoration Focus
 - Investigation is examining how additional storage could provide additional flows in the San Joaquin River to support restoration
 - Identifying potentially available water volumes and patterns
 - ◆ Other programs and processes are considering the physical conditions of the river below Friant
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Initial Restoration Modeling Challenge

- ◆ Initial Assumptions
 - Enlarged Friant
 - Maintaining long-term average surface water deliveries
 - Honor current laws, rules and regulations
- ◆ Initial Needs
 - Restoration demand patterns for the model
 - ◆ A single restoration objective has not been established
 - ◆ If all new water from new storage were made available for restoration, how might it be managed?

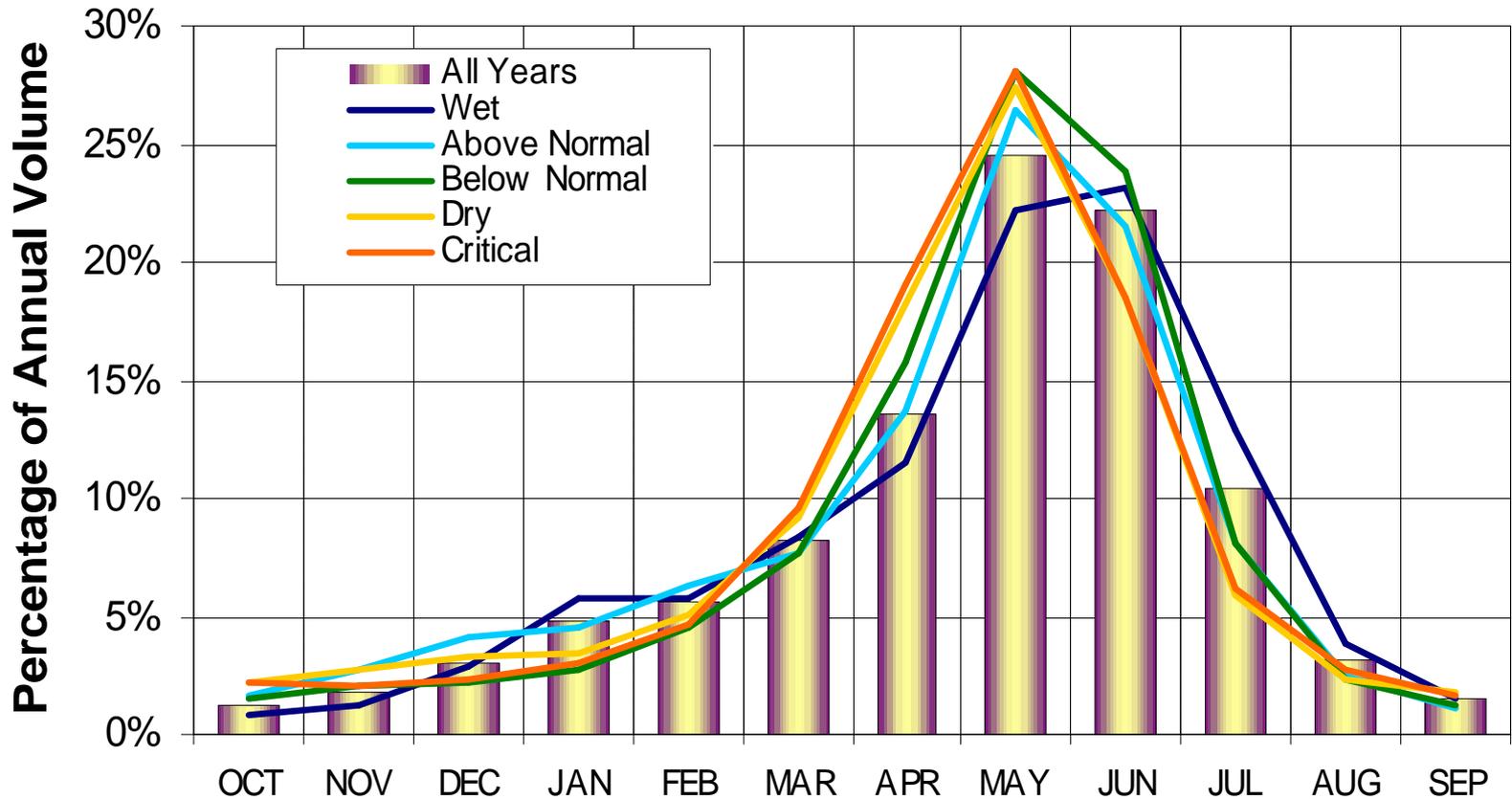
Important Restoration Topics for the Investigation

- ◆ Restoration Flows and Patterns
 - Initial assumptions
 - Modifications based on initial results
 - ◆ Restoration Objectives for Phase 2
 - ◆ Coordination with Other Programs
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Initial Modeling Approach for Restoration

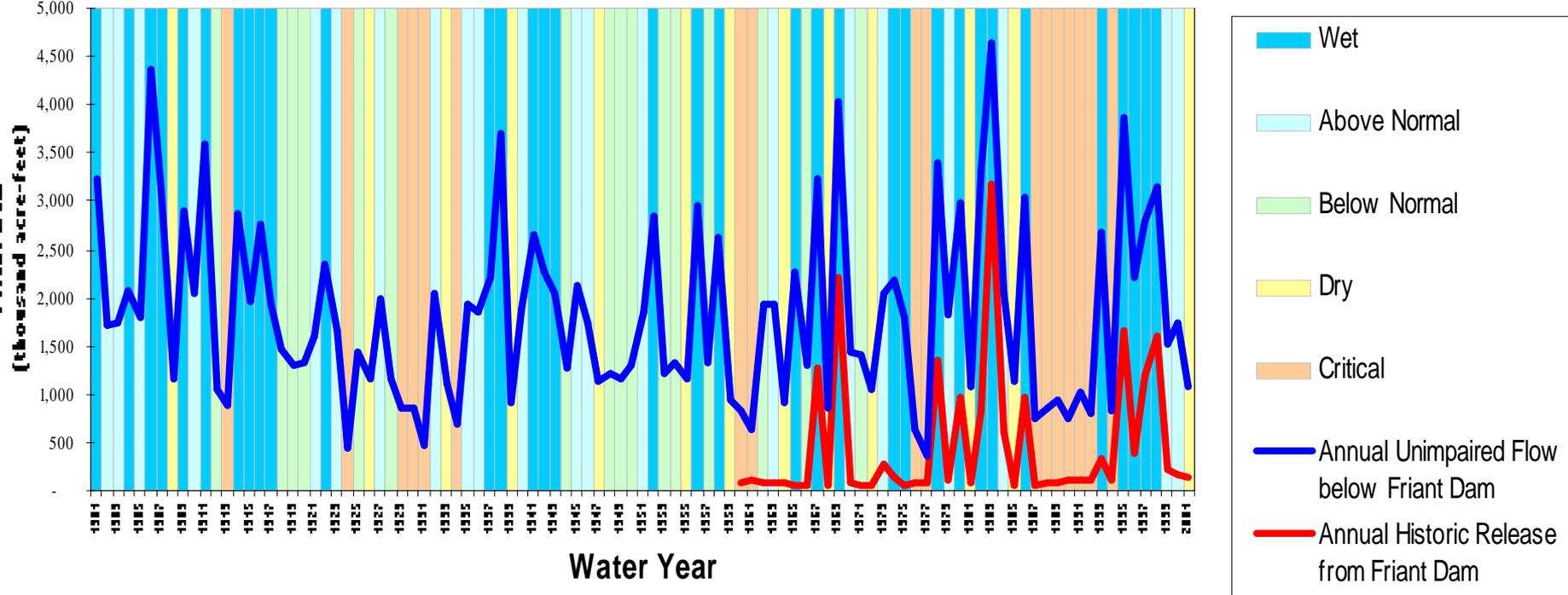
- ◆ Initial modeling will examine the potential water available for restoration from a Friant Enlargement Concept
 - Define flow management patterns for restoration
 - ◆ Month-to-month
 - ◆ Year-to-year
 - Report results back to stakeholder group

Month-to-Month Distribution of Unimpaired Flow San Joaquin River below Friant Dam



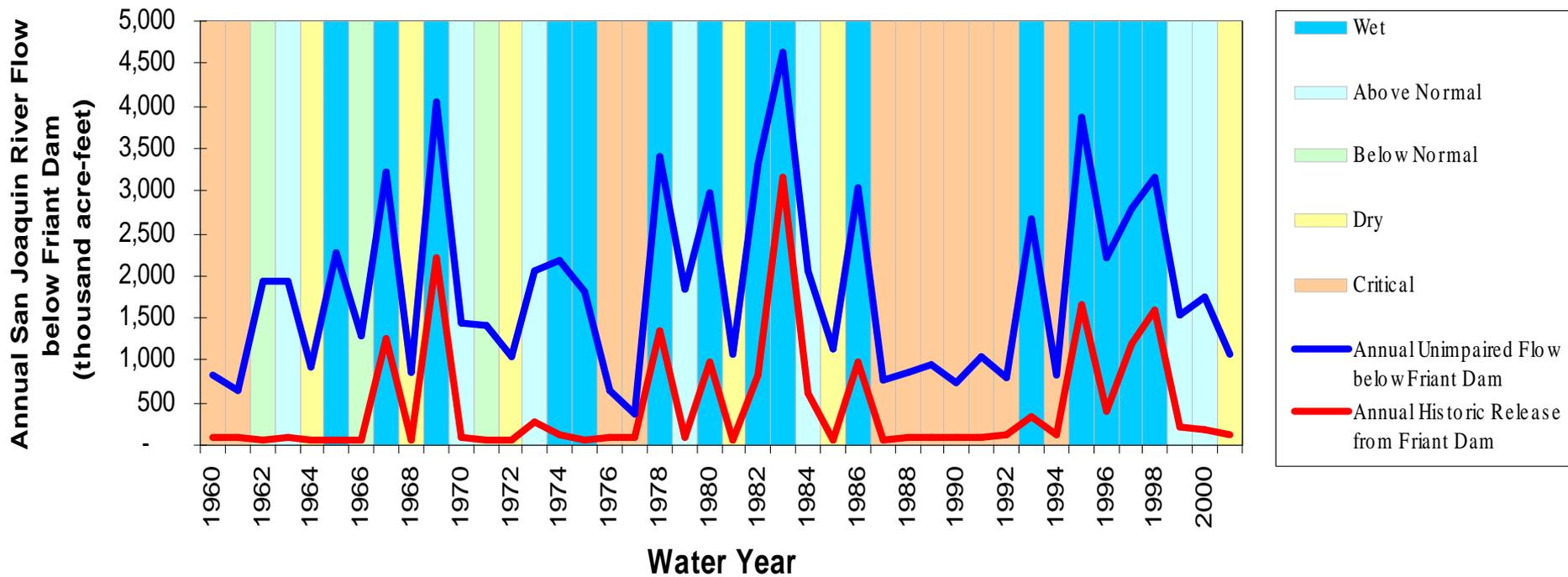
Ref: CDEC Record October 1900 - September 2001, Based on San Joaquin River Index

Annual Variation in Historical Flow San Joaquin River below Friant Dam



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Annual Variation in Historical Flow San Joaquin River below Friant Dam



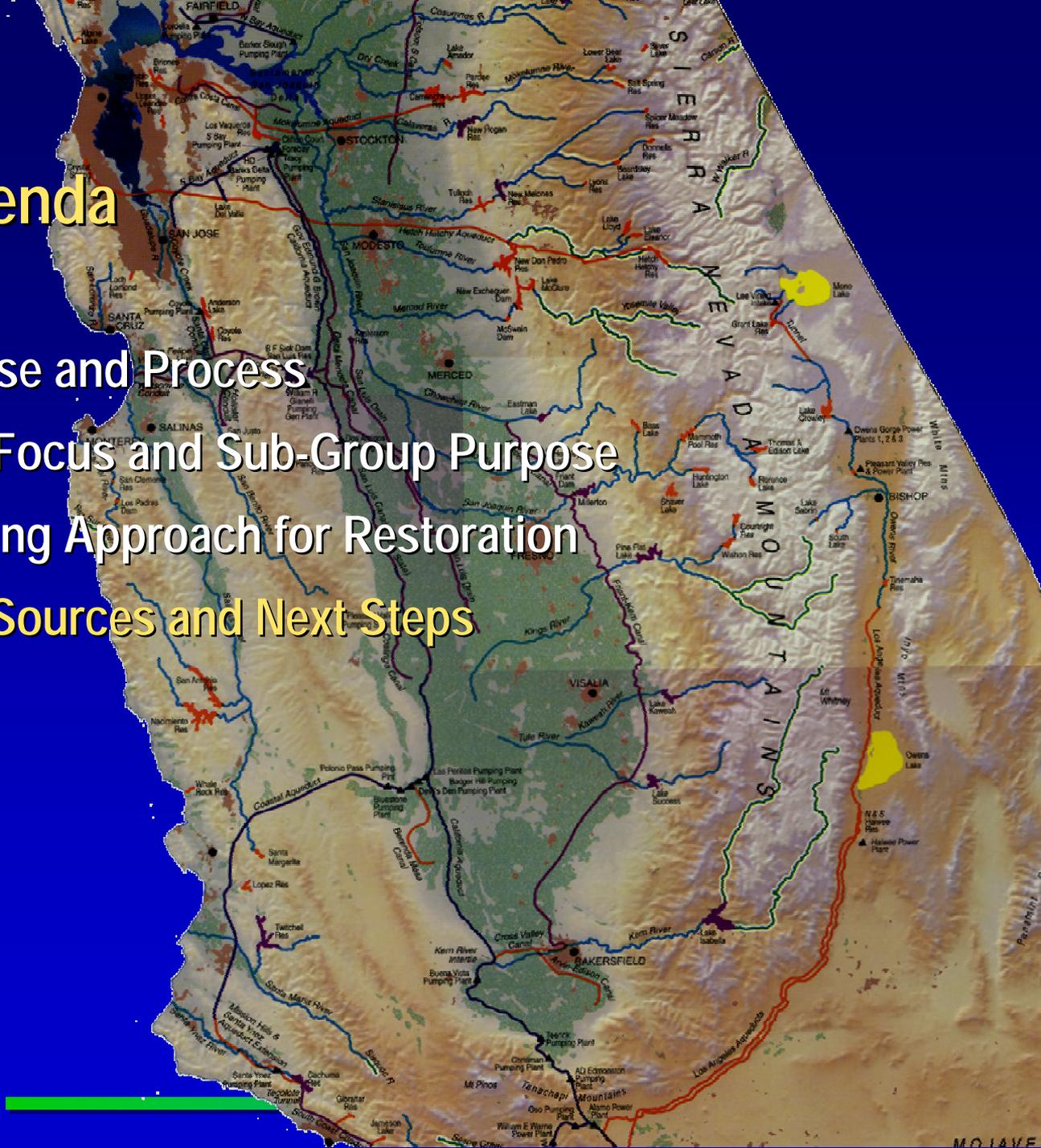
Ref: CDEC Record October 1960 - September 2001, Based on San Joaquin River Index

Questions and Discussion on Initial Restoration Modeling Approach

- ◆ Does this approach make sense?
 - ◆ What other considerations should be included in the initial analysis?
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Information Sources

- ◆ There are numerous programs grappling with restoration issues on the San Joaquin River and other rivers
 - ◆ The Investigation can apply new information as it becomes available
 - ◆ Who are the key people and organizations to keep involved?
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Next Steps

- ◆ Incorporate information into initial modeling effort
- ◆ Review results from initial modeling efforts
- ◆ Present initial results at October 18 Workshop (#3)